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09/713,994	11/16/2000	James Keddie	MBI-0022	7536

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EXAMINER
KRUSE, DAVID H

ART UNIT	PAPER NUMBER
1638	

DATE MAILED: 07/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/713,994	KEDDIE ET AL.	
	Examiner	Art Unit	
	David H Kruse	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *9-12,15-24 and 27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,13,14,25 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *9 and 10* .
4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-8, 13, 14, 25, 26 and SEQ ID NO: 15(G986) in Paper No. 8, filed 16 May 2002 is acknowledged. The traversal is on the ground(s) that applicants are electing a species (page 1, 1st paragraph of the Replay). Applicant argues that a search of Group I would encompass at least the results of a search of Groups III and IV and that Groups III and IV and Group I share a common utility and share a structural feature in that the polynucleotide encodes the polypeptide (page 2 of the Reply). In addition, Applicant argues that a burden in examining multiple nucleotide sequences does not exist (page 2, last paragraph of the Reply).

This is not found persuasive because the restriction mailed 16 April 2002 clearly states on page 12 that the election was not to be construed as an election of species. The Office views nucleotide sequences encoding distinct proteins as independent inventions within the meaning of 35 USC § 121. Clearly the instant claims are not directed to a nucleotide encoding a specific protein, but to a diverse genus of nucleotides encoding a diverse genus of proteins, that being plant transcription factors. The resources of the Office are limited and the size of the databases that must be searched for the prior art have grown substantially since the Official Gazette notice of November 19, 1996, to which the restriction refers, and searching multiple nucleotide sequences does pose a substantial burden on the Office resources at this time.

In addition, the inventions of Groups III and IV are distinct and would require additional searches directed to compliance of the claims in view of 35 USC §§ 112, first

paragraph, 102 and 103, and thus do pose an substantial search burden on the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 9-12, 15-24, 27 and SEQ ID NOs: 1-14 and 16-109 are withdrawn from further consideration pursuant to 37 CFR § 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

3. This application contains claim 9-12, 15-24 and 27, drawn to an invention nonelected with traverse in Paper No. 8. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR § 1.144). See MPEP § 821.01.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR § 1.48(b) and by the fee required under 37 CFR § 1.17(i).

Information Disclosure Statement

5. The information disclosure statement filed 26 June 2002 is duplicative of the information disclosure statement filed 16 May 2002. The references have been considered and copies of both information disclosure statements are attached.

Drawings

6. The drawings in this application are objected to by the Draftsperson as informal. See the attached PTO-948 form. Applicant is reminded that correction of the drawings cannot be held in abeyance, and that formal drawings are required in response to this Office Action as outlined in 37 CFR § 1.85(a). Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

Specification

7. The disclosure is objected to: The specification contains multiple references to an "Appendix A", for example on page 1, line 29, page 2, lines 10, 11 and 13, and page 4 line 11. Said "Appendix A" does not appear in the specification, or in the file. New matter must be avoided.

8. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code on page 31, line 1. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Objections

9. Claims 1-8, 13, 14, 25 and 26 are objected to because of the following informalities: The claims are directed to non-elected SEQ ID NOs, and should be amended to remove any reference to non-elected inventions. Appropriate correction is required.

At claim 14, the phrase "a polynucleotide of claim 4" should read -- the polynucleotide of claim 4 -- because claim 4 is directed to an isolated or recombinant polynucleotide in the singular.

At claim 25, the phrase "an isolated or recombinant polynucleotide of claim 4" should read -- the polynucleotide of claim 4 -- because claim 4 is directed to an isolated or recombinant polynucleotide in the singular.

At claim 26, the phrase "an isolated or recombinant polypeptide of claim 11" should read -- the isolated or recombinant polypeptide of claim 11 -- because claim 11 is directed to an isolated or recombinant polypeptide in the singular. In addition claim 26 is directed to a non-elected invention.

10. Claim 26 is objected to under 37 CFR § 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 26 is directed to a "plant" while claim 11 is directed to "an isolated or recombinant polypeptide", hence claim 26 fails to further limit the polypeptide of claim 11.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

12. Claims 1-8, 13, 14, 25 and 26 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 4 are indefinite because said claims refer to an "Appendix A" which does not appear in the specification, hence it is unclear what the metes and bounds of the claims are.

At claims 1(a) and 4(a), the phrase "comprising a sequence selected from" is indefinite because it is unclear if Applicant is referring to the nucleotide sequence or the polypeptide, in view of the lack of an "Appending A" in the specification.

At claims 1(b) and 4(b), the phrase "comprising a conservative substituted variant of a polypeptide of (a)" because it is unclear how **the** polypeptide of (a) would also comprise a polypeptide comprising a conservative substituted variant. It is unclear if Applicant is claiming a fusion polypeptide or a variant of the polypeptide of (a) comprising a conservatively substituted amino acid sequence. Appropriate correction is required.

At claims 1(d) and 4(d), the phrase "a nucleotide sequence of (c)" is indefinite and should read -- the nucleotide sequence of (c) --. See also 1(e, h and i) and 4 (e, h and i).

At claims 1(e) and 4(e), the phrase "hybridizes under stringent conditions" is indefinite because it is unclear what the metes and bounds of this limitation are. Applicant's definition on page 12, 1st paragraph, of the specification does not teach what time limits are used to produce said "stringent conditions".

At claims 1 (g) and 4(g), the limitation "any of (a)-(f)", renders the claims indefinite because it is unclear what the metes and bounds of the claims are.

At claims 1(l) and 4(l), the phrase "a conserved domain" is indefinite because the phrase is relative and does not state the metes and bounds of the claimed invention. Figure 1 teaches Applicant's interpretation of the conserved domain encoded by SEQ ID NO: 15, hence the claim should read -- the conserved domain encoded by polynucleotide having the nucleotide sequence of SEQ ID NO: 15 --.

Claim 13 is indefinite and generally narrative, said claim being directed to a method for producing a plant, but "altering" does not denote a positive method step by which one would practice the claimed method. The limitation "altering" does not state the metes and bounds of the claimed method. In addition, claim 13 is dependent upon a claim directed to the non-elected invention of claim 11, and should be amended accordingly.

At claim 26, it is unclear if the plant comprises "the activity of" an isolated or recombinant polypeptide or if the plant comprises [altered activity of] an isolated or recombinant polypeptide. Hence, it is unclear what the metes and bounds of the claimed invention are.

13. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

14. Claims 1-8, 13, 14, 25 and 26 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the

inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant claims an isolated or recombinant polynucleotide comprising a nucleotide sequence encoding a polypeptide comprising a sequence selected form "Appendix A", comprising a conservative substituted variant of said polypeptide, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31% or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A. Applicant also claims transgenic plants comprising a recombinant polynucleotide comprising said nucleotide sequence, a cloning or expression vector comprising said polynucleotide, and a method of producing a plant having a modified characteristic using said polynucleotide.

Applicant describes a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, the elected invention, said polynucleotide having been isolated from *Arabidopsis thaliana* and an *Arabidopsis thaliana* plant having a "knockout" of said polynucleotide exhibiting increased susceptibility to *Fusarium* (see Figure 2). It is unclear from Figure 2 and the specification if the term "knockout" is to be interpreted as meaning a plant lacking a polynucleotide or a plant in which expression of said polynucleotide has been suppressed in some way.

Applicant does not describe other polynucleotides comprising a conservative substituted variant of a polypeptide shown in Appendix A, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31% or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A. Applicant does not describe any unique identifying features of a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, what type of polypeptide is encoded by a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, other than it is a transcription factor, or what "modified trait" a plant comprising a recombinant polypeptide comprising a conservative substituted variant of said polypeptide, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31% or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A would exhibit compared to a wild type plant.

Hence, it is unclear from the instant specification that Applicant was in possession of the invention as broadly claimed.

See *Amgen inc. v Chagai Pharmaceutical co.*, 18 USPQ 2d 1016 (Fed. Cir. 1991), which teaches that the conception of a chemical compound requires the inventor to be able to define the compound so as to distinguish it from other materials, and to describe how to obtain it rather than simply defining it solely by its principle biological property; thus, when an inventor of a gene, which is a chemical compound albeit a complex one, is unable to envision detailed constitution of the gene so as to distinguish it from other materials, as well as a method of obtaining it, the conception is not achieved until a reduction to practice has occurred, and until after the gene has been isolated.

See *University of California V. Eli Lilly and Co.*, 43 USPQ2d 1398 (Fed. Cir. 1997), which teaches that the disclosure of a process for obtaining cDNA from a particular organism and the description of the encoded protein fail to provide an adequate written description of the actual cDNA from that organism which would encode the protein from that organism, despite the disclosure of a cDNA encoding that protein from another organism.

See also, MPEP § 2163 which states that the claimed invention as a whole may not be adequately described where an invention is described solely in terms of a method of its making coupled with its function and there is no described or art-recognized correlation or relationship between the structure of the invention and its function. A biomolecule sequence described only by a functional characteristic, without

any known or disclosed correlation between that function and the structure of the sequence, normally is not a sufficient identifying characteristic for written description purposes, even when accompanied by a method of obtaining the claimed sequence. In the instant case, the claimed isolated or recombinant polynucleotide is only described by the function that it encodes a polypeptide that modifies a trait in a plant, and transgenic plants with a modified trait comprising said polynucleotide. In addition, it is art-recognized that different plant transcription factors regulate different plant traits, and that some plant transcription factors regulate multiple traits. Hence, the art recognizes that there is no clear correlation between the structure of a plant transcription factor polynucleotide or the encoded polypeptide and the specific function of the transcription factor, that being the regulation of gene expression in general as opposed to regulating root development, for example.

15. Claims 1-8, 13, 14, 25 and 26 are rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for an isolated or recombinant polynucleotide encoding the polypeptide encoded by a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, transgenic plant comprising a knockout of said polynucleotide having reduced resistance to fungal pathogens and methods of making said transgenic plant, does not reasonably provide enablement for any polynucleotide encoding a polypeptide that modifies a plant's trait, any plant comprising said polynucleotide and methods of making same. The specification does not enable any person skilled in the art to which it pertains, or with which it is most

nearly connected, to make and use the invention commensurate in scope with these claims.

Applicant claims an isolated or recombinant polynucleotide comprising a nucleotide sequence encoding a polypeptide comprising a sequence selected form "Appendix A", comprising a conservative substituted variant of said polypeptide, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31% or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A. Applicant also claims transgenic plants comprising a recombinant polynucleotide comprising said nucleotide sequence, a cloning or expression vector comprising said polynucleotide, and a method of producing a plant having a modified characteristic using said polynucleotide.

Applicant teaches a transgenic *Arabidopsis thaliana* "knockout" plant in Figure 2, transformed with a polynucleotide having the nucleotide sequence of SEQ ID NO:15, said plant having increased susceptibility to *Fusarium*.

Applicant does not teach other polynucleotides comprising a conservative substituted variant of a polypeptide shown in Appendix A, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a

nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31% or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A. Applicant does not teach any unique identifying features of a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, what type of polypeptide is encoded by a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, other than it is a transcription factor, or what "modified trait" a plant comprising a recombinant polypeptide comprising a conservative substituted variant of said polypeptide, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31% or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A would exhibit compared to a wild type plant. In addition, at claim 26, Applicant does not teach altered or altering expression levels of an isolated or recombinant polypeptide in a plant by methods other than overexpression or suppression using a polynucleotide having the sequence of SEQ ID NO: 15.

In re Wands, 858F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988) lists eight considerations for determining whether or not undue experimentation would be

necessary to practice an invention. These factors are: the quantity of experimentation necessary, the amount of direction or guidance presented, the presence or absence of working examples of the invention, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, and the breadth of the claims.

Applicant has provided limited guidance for the claimed invention. The specification gives only limited guidance as to what "plant trait" is "modified" in transgenic *Arabidopsis thaliana* plants transformed with the disclosed polynucleotide, specifically a polynucleotide having the nucleotide sequence of SEQ ID NO: 15, of the elected invention. Applicant provides no guidance as to what special or specific properties the transcription factor encoded by SEQ ID NO: 15 has that enables said transcription factor to modify a specific plant trait, only that it is a transcription factor. Applicant only provides examples directed to transgenic plants transformed with a homologous polynucleotide sequence, applicant does not provide examples of heterologous plants transformed with the disclosed polynucleotide or what plant traits are modified in heterologous plants by the taught transcription factor. The art teaches that equivalent or similar biological functions can be controlled by different families of transcription factors and that DNA binding domains that are found in all three eukaryotic kingdoms often control different functions in each one (see Riechmann *et al* 2000, Science Vol.290, pages 2105-2110, in particular page 2109, left column, last paragraph). Hence, it would have required undue trial and error experimentation by one of skill in the art at the time of Applicant's invention to screen through a myriad of

polynucleotides comprising a nucleotide sequence encoding a polypeptide comprising a conservative substituted variant of a polypeptide shown in Appendix A, a nucleotide sequence comprising silent substitutions of said nucleotide sequence, a nucleotide sequence comprising at least 15 consecutive nucleotides of said nucleotide sequence, a nucleotide sequence comprising a subsequence or fragment of said nucleotide sequence encoding a polypeptide that modifies a plant's trait, having at least 31% or 60% identity to said nucleotide sequence or encodes a conserved domain of a polypeptide having at least 65% sequence identity to a conserved domain of a polypeptide of Appendix A, transform a myriad of plants and determine what polynucleotides modify what plant trait as broadly claimed.

At claim 26, it would have required undue trial and error experimentation by one of skill in the art at the time of Applicant's invention to identify all method of altering expression levels or altering the activity of the polypeptide encoded by SEQ ID NO: 15. See *Genentech, Inc. V. Novo Nordisk, A/S*, 42 USPQ2d 1001, 1005 (Fed. Cir. 1997), which teaches that disclosure of a "mere germ of an idea does not constitute [an] enabling disclosure", and that "the specification, not the knowledge of one skilled in the art" must supply the enabling aspects of the invention.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

17. Claims 1-8, 13, 14, 25 and 26 are rejected under 35 U.S.C. § 102(e) as being anticipated by Thomashow *et al* (U.S. Patent 6,417,428, filed 23 November 1998).

The limitation at claims 1(e) and 4(e) "hybridizes under stringent conditions" has been found to be indefinite as discussed supra. In addition, the limitation at claims 1(g) and 4(g) "or fragment encodes a polypeptide that modifies a plant's trait" has been interpreted to the broadest extent, and may encompass any fragment that encodes a polypeptide that modifies a plant's trait, the nucleotide sequence to which said claims is directed may encode a conservatively substituted variant as claimed in claims 1(b) and 4(b).

Thomashow discloses a transgenic plant with the modified trait of enhanced freezing tolerance, said transgenic plant having been transformed with an expression vector comprising a constitutive promoter operably linked to a polynucleotide comprising a nucleotide sequence comprising a fragment of Applicant's SEQ ID NO: 15 that encodes a polypeptide that modifies a plant's trait, that being the *Arabidopsis thaliana* transcription factor CBF1, SEQ ID NO: 12, for example (see claims 9 and 28). Said transgenic plant over-expresses the CBF1 transcription factor and alters the transgenic *Arabidopsis* plant's tolerance to freezing. Thomashow also discloses a method of

producing a plant having a modified characteristic (see claim 11). Hence, Thomashow has previously disclosed all of the claim limitations.

18. Claim 4 is rejected under 35 U.S.C. § 102(b) as anticipated by Newman *et al* 1994 (Plant Physiology 106:1241-1255) taken with the evidence of Newman 1998 (Genbank Accession Number H76651, submitted 5 January 1998).

Newman discloses an isolated polynucleotide comprising a nucleotide sequence comprising at least 15 consecutive nucleotide of SEQ ID NO: 15, said polynucleotide would hybridize under "stringent conditions" to a polynucleotide having the nucleotide sequence of SEQ ID NO: 15 (see Genbank Accession Number H76651). The polynucleotide of Newman from base-pair 30-427 is 92.7% similar to Applicant's SEQ ID NO: 15 from base-pair 1-398.

Conclusion

19. No claims are allowed.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (703) 306-4539. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Amy Nelson can be reached at (703) 306-3218. The fax telephone number for this Group is (703) 872-9306 Before Final or (703) 872-9307 After Final.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Kim Davis whose telephone number is (703) 305-3015.

ASHWIN D. MEHTA, PH.D
PATENT EXAMINER

David H. Kruse, Ph.D.
26 July 2002